

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Rapidly Deployable Aerial Telecommunications)	PS Docket No. 11-15
Architecture Capable of Providing Immediate)	
Communications to Disaster Areas)	

COMMENTS OF APCO

The Association of Public-Safety Communications Officials-International, Inc. (“APCO”) hereby submits the following comments in response to the Commission’s *Public Notice*, DA 11-175, released January 28, 2011, in the above-captioned proceeding regarding aerial telecommunications architecture, such as unmanned aerial vehicles or balloons, that can be rapidly deployed in emergency response situations.

Founded in 1935, APCO is the nation’s oldest and largest public safety communications organization. Most APCO members are state or local government employees who manage and operate communications systems for police, fire, emergency medical, forestry conservation, highway maintenance, disaster relief, and other public safety agencies. APCO is the largest FCC-certified frequency coordinator for Part 90, Public Safety Pool channels, and appears regularly before the Commission on a wide variety of public safety communications issues.

APCO agrees that aerial telecommunications platforms have the potential to supplement and, in rare situations, temporarily replace, public safety radio communications systems during emergency disaster situations. However, as suggested in the *Public Notice*, there are major problems that must be addressed to facilitate coordination, management, and control of aerial telecommunications platforms. Most important is the need to avoid interference to and maintain interoperability with ongoing public safety communications in the same and immediately

adjacent geographic areas. Aerial telecommunications platforms that fail those requirements could cause a far greater harm than good for public safety.

Complicating any use of aerial telecommunications are the wide variety of factors that could impact existing radio systems. Any high elevation system obviously poses issues due to the wide signal coverage. While that is a potential benefit (and the reason for mountaintop transmitters wherever feasible when wide area coverage is desired), high elevation transmission also reduces channel reuse due to the potential for wide-area, co-channel and adjacent-channel interference. *Fixed* use at high elevation can often be managed through existing frequency coordination procedures. However, *inherently moveable* airborne transmitters are an entirely different problem. Even tethered balloons can change location and altitude with minor variations in wind speed and direction.

Frequency coordination of aerial telecommunications would require a complex set of factors that include the full range of potential transmitter locations and altitudes, power levels, duration of use, frequency selection, and whether both uplink and downlink transmissions are contemplated. Power levels would also vary depending upon whether both portable and mobile radios on the ground are part of the intended communications, and whether in-building coverage is needed.

Managing the frequency coordination is also an essential question that must be addressed early if aerial telecommunications platforms are to become viable additions to public safety systems in times of emergency. Potential candidates include existing certified frequency coordinators who have local knowledge of radio systems, and statewide emergency planning and interoperability committees. Another question is whether coordination will be needed between different aerial platforms, or just between such platforms and existing terrestrial systems.

The usefulness of aerial telecommunications platforms will be dependent upon the ability to communicate with at least a substantial subset of mobile and portable radios used by first responders and other disaster relief personnel. That leads to questions for equipment vendors regarding frequency selection, hardware capability, software requirements, and security protocols that can be implemented in unforeseen circumstances across multiple types of telecommunications platforms.

From an operational perspective, critical issues include the key question of who controls use of the platform and to whom licenses should be granted. One potential model is the current mutual aid channels that are often licensed on a state-wide basis. APCO also recommends that any use of aerial telecommunications platforms for public safety be defined in a local/regional Tactical Interoperable Communications Plan (TICP) and that the FCC issue a Special Temporary Authority (STA) prior to deployment. Such steps would provide for some degree of preplanning and notification.

CONCLUSION

APCO suggests that the Commission gather information from the *Public Notice* and continue to monitor developments in aerial telecommunications platform technology. Ultimately, the best solution may be to dedicate spectrum for such operations,¹ though the

¹ The Commission should avoid the situation created by the allotment of VHF and UHF interoperability channels, which forced pre-existing licensees of those frequencies to try to find alternate channels in frequency-congested bands.

challenge will be to find channels that would not create interference and can be integrated into existing land mobile radio equipment.

Respectfully submitted,

/s/

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